

ANNUAL REPORT OF VIOLATIONS OF THE FEDERAL SAFE DRINKING WATER ACT

January 1, 2002 through December 31, 2002



Tennessee Department of Environment and Conservation
Division of Water Supply
July 2003

This report was prepared in accordance with the requirements of Section 1414.(c)(3)(A) of the Federal Safe Drinking Water Act and covers significant violations that occurred from January 1, 2002 through December 31, 2002. Copies of this report are located and available for review in each of the following locations:

Division of Water Supply - Central Office
401 Church Street
6th Floor, L&C Tower
Nashville, TN 37243-1549
615-532-0191

Regional Environmental Assistance Centers (EACs) - Division of Water Supply
1-888-891-8332

Chattanooga EAC
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Suite 550 - State Office Bldg.
540 McCallie Avenue
Chattanooga, TN 37402-2013
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Knoxville EAC
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Suite 220 - State Plaza
2700 Middlebrook Pike
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Columbia, TN 38401
1-888-891-8332

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Nashville, TN 37216
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Cookeville, TN 38502
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Jackson, TN 38305-2222
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2305 Silverdale Rd.
Johnson City, TN 37601-2162
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Copies of the report are also located in most public libraries in the state and on the Department's Web site at: <http://www.state.tn.us/environment/dws/DWprogram.php#reports>

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(SWTR) - Surface Water Treatment Rule

(IEWSTR) - Interim Enhanced Surface Water Treatment Rule

SUMMARY

This report is provided in compliance with the requirements of the 1996 Amendments of the Federal Safe Drinking Water Act. Included in this report is both a summary of drinking water violations and detailed information on systems with a significant violation during 2002.

The majority of the water systems and operators in Tennessee are very conscientious about the quality of water provided to their customers. Many of the violations were monitoring violations caused by an oversight on the part of the water utility or due to new standards just implemented. Also included in the report are the systems that failed to deliver the Consumer Confidence Report within the required time frame.

The Department of Environment and Conservation, Division of Water Supply, has worked with water utility managers/owners and operators to address each of the violations included in this report. Enforcement action and compliance schedules were used to achieve compliance with the regulations when the water utility did not or could not return to compliance in a timely manner. The majority of the violations in this report were committed by small water systems for failure to meet the microbiological monitoring requirements or for failure to meet the microbiological maximum contaminant level for total coliform. The second largest group of violations was caused by those systems that failed to furnish a copy of their Consumer Confidence Report by the required reporting date. With technical assistance and training, most of the systems were able to return to compliance.

The Division of Water Supply will continue to work with water utility managers/owners and operators to ensure compliance with the drinking water requirements. If you have questions concerning the information contained in this report, please contact your local water utility, the nearest Division of Water Supply Office in the Regional Environmental Assistance Center at 1-888-891-8332, or the Nashville central office of the Division of Water Supply at 615-532-0191.

**STATE OF TENNESSEE
ANNUAL REPORT
PUBLIC WATER SYSTEM VIOLATIONS**

The Federal Safe Drinking Water Act (SDWA) was enacted in 1974 in order to assure that the public is provided with safe drinking water. Pursuant to the Safe Drinking Water Act and Amendments to the Act, national limits or standards were established on contaminant levels in drinking water to ensure that the drinking water is safe for human consumption. Such standards are known and denoted as Maximum Contaminant Levels. Further, the Environmental Protection Agency (EPA) also establishes treatment techniques for certain contaminants that are difficult for laboratories to measure in lieu of maximum contaminant levels (MCLs) to control unacceptable levels of contaminants in water. For example, treatment techniques have been established for giardia lamblia, cryptosporidium, viruses, heterotrophic bacteria, Legionella, and turbidity. In addition, the EPA regulates how frequently public water systems must monitor their water for contaminants and report the monitoring results to the States or EPA.

A public water system is required to monitor and verify that the levels of contaminants present in the water do not exceed the maximum contaminant level for that contaminant. If a public water system fails to monitor as required or fails to report monitoring results correctly, then a monitoring or reporting violation occurs. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting requirements. Additionally, the EPA requires public water systems to notify the public when they have violated these regulations. The 1996 Amendments to the Safe Drinking Water Act require public notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the public water system is undertaking to correct the violation and the possibility of alternative water supplies during the violation.

The Safe Drinking Water Act applies to each of the fifty (50) States and allows States and Territories to seek EPA approval to administer their own Public Water System Supervision Program. The authority given to a state to operate a Public Water System Supervision Program is called "Primacy". In order to receive primacy, a state must meet certain requirements specified in the Safe Drinking Water Act and those regulations promulgated pursuant to the Act, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that they can enforce program requirements. The State of Tennessee received primacy in 1977 and assumes primary enforcement responsibility for public water systems operating under the Tennessee Safe Drinking Water Act. The Safe Drinking Water Act and the Tennessee Safe Drinking Water Act define a public water system as follows:

"Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances, if such system serves fifteen (15) or more service connections or which regularly serves twenty-five (25) or more individuals daily at least sixty (60) days out of the year. A public water system includes:

- (i) Any collection, treatment, storage or distribution facility under control of the operator of such system and used primarily in connection with such system; and

(ii) Any collection or pretreatment storage facility not under such control which is used primarily in connection with such system.

A “Public Water System”, as defined above, is either a “community water system” or a “non-community water system”. Community and non-community water systems are defined as follows:

“Community Water System” means a public water system that serves at least fifteen (15) service connections used by year-round residents. Examples are municipalities and utility districts.

“Non-Community Water System” means a public water system that is not a community water system. Examples include churches, industries and restaurants.

As the “Primacy” agency, all public water systems in Tennessee must monitor for contaminants and report monitoring results to the State of Tennessee. Primacy States, such as Tennessee, then submit data to the EPA Safe Drinking Water Information System (SDWIS) on a quarterly basis. Data submissions include public water system inventory statistics, the incidence of Maximum Contaminant Level, Major Monitoring, and Treatment Technique violations, and the enforcement actions initiated against violators.

In addition to the above quarterly data submittal to the EPA, the 1996 Amendments of the Federal Safe Drinking Water Act require States with primacy to prepare and submit an annual report to EPA regarding public water system violations within the state in accordance with Section 1414(c)(3)(A)(i). Further, pursuant to 1414(c)(3)(A)(ii), states with primacy are required to publish and distribute summaries of their reports and advise citizens of locations where the full report is available for review. After the submittal of the state reports, EPA evaluates and summarizes the reports in an annual national report, the first of which EPA made available to the public just prior to July 1, 1998. Informational reports submitted to the public and EPA by Tennessee are required to encompass violations pertaining to (1) maximum contaminant levels, (2) treatment requirements, (3) variances and exemptions, and (4) monitoring requirements determined to be significant by the EPA after consultation with the State. However, the State of Tennessee does not utilize variances and/or exemptions with respect to primary drinking water regulations; therefore, such information is absent from the report prepared and submitted by the State of Tennessee.

The State of Tennessee, Department of Environment and Conservation, Division of Water Supply, currently possesses regulatory responsibility for approximately 1,165 public water systems throughout the state. These public water systems serve an estimated population in excess of 5,460,000 individuals. All public water systems must accomplish certain monitoring and reporting requirements; however, the frequency of such requirements are dependent upon and established considering, factors indicative of each water system including: population size served by the system; population type served by the system; and source water supply. Although monitoring and reporting requirements vary, failure to meet the monitoring and/or reporting requirements cause violations to be incurred.

To aid in the interpretation and understanding of reported data, the following definitions are offered in order to clarify the nature of violations which may be incurred and/or the contaminants being monitored:

“Ground water under the direct influence of surface water” means any water beneath the surface of the ground with (1) significant occurrence of insects or other macroorganisms, algae, or other large-diameter pathogens such as *Giardia lamblia*, or (2) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions. Direct influence must be determined for individual sources.

“Maximum Contaminant Level (MCL)” means the maximum permissible level of a contaminant in water which is delivered at the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity and other contaminants so designated where the maximum permissible level is measured at the point of entry into the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

Organic Contaminants: Carbon based compounds, such as industrial solvents and pesticides. These contaminants generally gain access to water through runoff from cropland or discharge from factories.

Inorganic Contaminants: Non-carbon based compounds such as metals, nitrates, and asbestos. These contaminants are naturally occurring in some water but can gain access through farming practices, chemical manufacturing, and other human activities.

Treatment Technique: A water treatment process or procedure that is required instead of a maximum contaminant level for contaminants that laboratories cannot adequately measure.

Surface Water Treatment Rule (SWTR): Establishes criteria under which water systems supplied by surface water or ground water under the direct influence of surface water must provide filtration as a treatment technique.

Trihalomethanes: Disinfection by-products produced as a result of the interaction of a disinfectant (chlorine) with naturally occurring organic material that may be present in the water.

Waiver: Permission or consent of the Division of Water Supply conveyed to a water supply system upon satisfactory completion of criteria established and necessary to obtain such waiver.

A summary report has been included which reveals a compilation of violations regarding each contaminant. In addition, narrative explanations and accompanying data tables are offered to reveal those public water systems that have incurred significant violations during the 2002 calendar year. The narrative explanations convey specific information regarding the contaminants monitored and/or violations incurred as well as guidance regarding the use and interpretation of the data tables.

By July 1, 2003, each community public water system is required to prepare and distribute a Consumer Confidence Report to customers served by the system. The report is required to contain information including the system’s source of water, contaminants detected in the water, potential health effects information, mechanisms for customers to influence decisions made by the water system and any violations of drinking water standards that may have occurred during the previous calendar year. This report is to be prepared annually and must be made available to the water customer.

Tennessee Water Systems

Summary Violations Report

January 1, 2002 through December 31, 2002

**State of Tennessee
Violations Summary for 2002**

	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations		Individual Systems In Violation ¹
	Number of Violations	Number of Systems	Number of Violations	Number of Systems	Number of Violations	Number of Systems	
Volatile Organics	0	0			0	0	0
Synthetic Organics					2	2	2
Inorganics	1	1			33	14	15
Radionuclides	3	1			1	1	1
Total Coliform Rule	50	45			133	107	143
Surface Water Treatment Rule			20	10	13	8	17
Interim Enhanced Surface Water Treatment Rules			10	7	36	9	12
Disinfection By-Products and By-Product Precursors	10	7	0	0	11	8	15
Lead and Copper Rule			0	0	1	1	1
Consumer Confidence Report					32	32	32
Total Violations in 2002	356						
Total Systems in Violation ¹	211						

¹ Although a public water system may be out of compliance with more than one contaminant group or rule, when calculating totals, it's counted no more than once. So, the sum of the number of water systems in violation, over the various contaminant groups or rules, may not add up to the total.

**State of Tennessee
Total Coliform Rule (TCR)
Violations Summary Report for 2002**

SDWIS Codes	Total Coliform Rule	MCL	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems ¹	Number of Violations	Number of Systems	Number of Violations	Number of Systems ¹
21	MCL, Acute	Presence	1	1				
22	MCL, Non-Acute	Presence	49	45				
23,25	Routine Monitoring and Repeat Major						133	107
	Total Number of Violations		50				133	
	Number of Individual Systems With MCL Violations			46				
	Number of Individual Systems With Significant Monitoring Violations							107
	Total Number of TCR Violations		183					
	Number of Individual Systems With TCR Violations ¹		143					

1. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

For detailed information see Tables 1 –4.

**State of Tennessee
Surface Water Treatment Rule (SWTR)
Violations Summary Report for 2002**

SDWIS Codes	Surface Water Treatment Rule	MCL	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems	Number of Violations	Number of Systems ¹	Number of Violations	Number of Systems ¹
Filtered Systems								
36	Monitoring, routine/repeat						13	8
41	Treatment Technique				13	9		
Unfiltered Systems								
31	Monitoring, routine/repeat						0	0
42	Failure to Filter				7	1		
	Subtotal				20		13	
	Number of Individual Systems With Treatment Technique Violations					10		
	Number of Individual Systems With Significant Monitoring Violations							8
	Total Number of SWTR Violations				33			
	Number of Individual Systems With SWTR Violations				17			

1. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

For detailed information see Tables 5 and 7.

**State of Tennessee
Interim Enhanced Surface Water Treatment Rule (IESWTR)
Violations Summary Report for 2002**

SDWIS Codes	Interim Enhanced Surface Water Treatment Rule	MCL	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems	Number of Violations	Number of Systems ¹	Number of Violations	Number of Systems ¹
29	Individual Filter Effluent Monitoring Violation						33	8
38	Combined Filter Effluent Monitoring Violation						3	3
43	Treatment Technique Violation At Least One Sample > 1 NTU				7	5		
44	Treatment Technique Violation More than 5% of samples > 0.3 NTU				3	3		
	Subtotal				10		36	
	Number of Individual Systems With Treatment Technique Violations					7		
	Number of Individual Systems With Significant Monitoring Violations							9
	Total Number of IESWTR Violations	46						
	Number of Individual Systems With IESWTR Violations	12						

Nephelometric Turbidity Unit (NTU)

1. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

For detailed information see Tables 6 and 8.

**State of Tennessee
Inorganic Contaminants
Violations Summary Report for 2002**

SDWIS Codes	Inorganic Contaminants	MCL ¹	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems ²	Number of Violations	Number of Systems	Number of Violations	Number of Systems ²
1074	Antimony	0.006	0	0			2	2
1005	Arsenic	0.05	0	0			2	2
1094	Asbestos	7 million Fibers/L > 10 microns	1	1			0	0
1010	Barium	2	0	0			2	2
1075	Beryllium	0.004	0	0			2	2
1015	Cadmium	0.005	0	0			2	2
1020	Chromium	0.1	0	0			2	2
1024	Cyanide (as free cyanide)	0.2	0	0			2	2
1025	Fluoride	4.0	0	0			1	1
1035	Mercury	0.002	0	0			2	2
1040	Nitrate	10 (as Nitrogen)	0	0			12	12
1038	Total Nitrate and Nitrite	10 (as Nitrogen)	0	0			0	0
1041	Nitrite	1 (as Nitrogen)	0	0			0	0
1045	Selenium	0.05	0	0			2	2
1085	Thallium	0.002	0	0			2	2
	Total Number of Violations		1				33	
	Number of Individual Systems in Violation			1				14
	Number of Individual Systems with Inorganic Violations		15					

1. VALUES ARE IN MILLIGRAMS PER LITER (MG/L), UNLESS OTHERWISE SPECIFIED.

2. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

For detailed information see Tables 9 and 10.

**State of Tennessee
Synthetic Organic Contaminants
Violations Summary Report for 2002**

SDWIS Codes	Synthetic Organic Contaminants	MCL ¹	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems	Number of Violations	Number of Systems	Number of Violations	Number of Systems
2931	1,2-Dibromo-3-chloropropane(DBCP)	0.0002	0	0			0	0
2063	2,3,7,8-TCDD (Dioxin)	3x10 ⁻⁸	0	0			0	0
2110	2,4,5-TP	0.05	0	0			0	0
2105	2,4-D	0.07	0	0			0	0
2265	Acrylamide				0	0		
2051	Alachlor	0.002	0	0			0	0
2050	Atrazine	0.003	0	0			2	2
2306	Benzo[a]pyrene	0.0002	0	0			0	0
2046	Carbofuran	0.04	0	0			0	0
2959	Chlordane	0.002	0	0			0	0
2031	Dalapon	0.2	0	0			0	0
2035	Di(2-ethylhexyl)adipate	0.4	0	0			0	0
2039	Di(2-ethylhexyl)phthalate	0.006	0	0			0	0
2041	Dinoseb	0.007	0	0			0	0
2032	Diquat	0.02	0	0			0	0
2033	Endothall	0.1	0	0			0	0
2005	Endrin	0.002	0	0			0	0
2257	Epichlorohydrin				0	0		
2946	Ethylene dibromide	0.00005	0	0			0	0
2034	Glyphosate	0.7	0	0			0	0
2065	Heptachlor	0.0004	0	0			0	0
2067	Heptachlor epoxide	0.0002	0	0			0	0
2274	Hexachlorobenzene	0.001	0	0			0	0
2042	Hexachlorocyclopentadiene	0.05	0	0			0	0

(Continued on next page)

**State of Tennessee
Synthetic Organic Contaminants
Violations Summary Report for 2002**

SDWIS Codes	Synthetic Organic Contaminants	MCL ¹	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems ²	Number of Violations	Number of Systems ²	Number of Violations	Number of Systems ²
2010	Lindane	0.0002	0	0			0	0
2015	Methoxychlor	0.04	0	0			0	0
2036	Oxamyl (Vydate)	0.2	0	0			0	0
2326	Pentachlorophenol	0.001	0	0			0	0
2040	Picloram	0.5	0	0			0	0
2383	Polychlorinated biphenyls	0.0005	0	0			0	0
2037	Simazine	0.004		0			0	0
2020	Toxaphene	0.003	0	0			0	0
	Total Number of Violations		0		0		2	
	Number of Individual Systems in Violation			0		0		2

1. VALUES ARE IN MILLIGRAMS PER LITER (MG/L), UNLESS OTHERWISE SPECIFIED.

2. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

For detailed information see Table 11.

**State of Tennessee
Volatile Organic Contaminants
Violations Summary Report for 2002**

SDWIS Codes	Volatile Organic Contaminants	MCL ¹	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems ²	Number of Violations	Number of Systems	Number of Violations	Number of Systems ²
2977	1,1-Dichloroethylene	0.007	0	0			0	0
2981	1,1,1-Trichloroethane	0.2	0	0			0	0
2985	1,1,2-Trichloroethane	0.005	0	0			0	0
2980	1,2-Dichloroethane	0.005	0	0			0	0
2983	1,2-Dichloropropane	0.005	0	0			0	0
2378	1,2,4-Trichlorobenzene	0.07	0	0			0	0
2990	Benzene	0.005	0	0			0	0
2982	Carbon tetrachloride	0.005	0	0			0	0
2380	cis-1,2-Dichloroethylene	0.07	0	0			0	0
2964	Dichloromethane	0.005	0	0			0	0
2992	Ethylbenzene	0.7	0	0			0	0
2989	Monochlorobenzene	0.1	0	0			0	0
2968	o-Dichlorobenzene	0.6	0	0			0	0
2969	para-Dichlorobenzene	0.075	0	0			0	0
2996	Styrene	0.1	0	0			0	0
2987	Tetrachloroethylene	0.005	0	0			0	0
2991	Toluene	1	0	0			0	0
2979	trans-1,2-Dichloroethylene	0.1	0	0			0	0
2984	Trichloroethylene	0.005	0	0			0	0
2950	Total Trihalomethanes	0.010	0	0			0	0
2976	Vinyl chloride	0.002	0	0			0	0
2955	Xylenes (total)	10	0	0			0	0
	Total Number of Violations		0				0	
	Number of Individual Systems in Violation			0				0
	Total Number of Individual Systems with VOC Violation		0	0	0	0	0	0

1. VALUES ARE IN MILLIGRAMS PER LITER (MG/L), UNLESS OTHERWISE SPECIFIED.

2. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

**State of Tennessee
Disinfection By-Product and By-Product Precursors
Violations Summary Report for 2002**

SDWIS Codes	Volatile Organic Contaminants	MCL ¹	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems ²	Number of Violations	Number of Systems ²	Number of Violations	Number of Systems ²
2456	Total Haloacetic Acids	0.060	7	5			3	3
2920	Total Organic Carbons				0	0	6	6
2950	Total Trihalomethanes	0.080	3	3			2	2
	Number of Violations		10		0		11	
	Number of Individual Systems in Violation			7		0		8
	Total Number of Violations		21					
	Number of Individual Systems with Disinfection By-Product and/or By-Product Precursor Violations		15					

1. VALUES ARE IN MILLIGRAMS PER LITER (MG/L), UNLESS OTHERWISE SPECIFIED.

2. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

For detailed information see Tables 12, 13 and 14.

**State of Tennessee
Lead and Copper Rule
Violations Summary Report for 2002**

SDWIS Codes	Lead & Copper Rule	MCL ¹	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems ³	Number of Violations	Number of Systems	Number of Violations	Number of Systems ³
51	Initial lead and copper tap M/R ²						0	0
52	Follow-up or routine lead and copper tap M/R ²						1	1
	Total Number of Violations						1	
	Number of Individual Systems							1

1. VALUES ARE IN MILLIGRAMS PER LITER (MG/L), UNLESS OTHERWISE SPECIFIED.

2. MONITORING / REPORTING VIOLATION (M/R)

3. ALTHOUGH A PUBLIC WATER SYSTEM MAY BE OUT OF COMPLIANCE WITH MORE THAN ONE CONTAMINANT GROUP OR RULE, WHEN CALCULATING TOTALS, IT'S COUNTED NO MORE THAN ONCE. SO, THE SUM OF THE NUMBER OF WATER SYSTEMS IN VIOLATION, OVER THE VARIOUS CONTAMINANT GROUPS OR RULES, MAY NOT ADD UP TO THE TOTAL.

**State of Tennessee
Consumer Confidence Reports (CCR)
Violations Summary Report for 2002**

SDWIS Codes	Consumer Confidence Report	Number of Violations	Number of Systems
71	Failure to Provide CCR	32	32
	Totals	32	32

For detailed information see Table 15.

**State of Tennessee
Radionuclides
Violations Summary Report for 2002**

SDWIS Codes	Inorganic Contaminants	MCL	MCL Violations		Treatment Technique Violations		Significant Monitoring Violations	
			Number of Violations	Number of Systems	Number of Violations	Number of Systems	Number of Violations	Number of Systems
4000	Gross alpha	15 pCi/L		0			1	1
4010	Radium -226 and radium -228	5 pCi/L	3	1			0	0
4101	Gross beta	4 mrem/yr	0	0			0	0
	Total Number of Violations		3				1	
	Number of Individual Systems in Violation			1				1
	Number of Individual Systems in Violation of Radionuclides	1						

For detailed information see Table 16.

MICROBIOLOGICAL DATA INTERPRETATION AND GUIDANCE

Microbiological contaminant sampling is conducted by all public water systems in Tennessee in an effort to detect biological contaminants that may be present in drinking water. All community public water systems must conduct monitoring on a monthly basis with the number of samples based on the population served. At a minimum, non-community water systems must monitor each calendar quarter. Non-community systems that serve more than one thousand (1,000) persons and utilize a ground water source under the direct influence of surface water or utilize surface water in total or in part must monitor on a monthly basis. A system collecting a sample that is positive for the presence of coliform bacteria must collect no fewer than three repeat samples for each positive result. All samples positive for the presence of total coliforms must be analyzed for the presence of fecal coliforms. The results of all routine and repeat samples are included in determining compliance with the maximum contaminant level for total coliforms. The maximum contaminant level is based on the presence or absence of total coliforms in a sample.

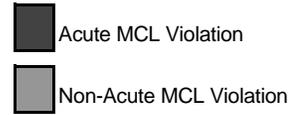
If any repeat sample is fecal coliform-positive, or if any repeat sample is total coliform-positive following a fecal coliform-positive routine sample, an acute violation of the maximum contaminant level for microbiological contaminants is incurred. For systems which collect forty (40) or more samples per month, if greater than five (5) percent of samples collected yield total coliform-positive results a non-acute violation of the maximum contaminant level for microbiological contaminants is incurred. Further, for systems collecting fewer than forty (40) samples per month, if more than one (1) sample collected yields a total coliform-positive result then a non-acute violation for microbiological contaminants is incurred.

Failure by a public water system to perform routine monitoring for microbiological contaminants constitutes a significant monitoring violation. Failure by a public water system to perform repeat monitoring following a positive coliform sample also constitutes a significant monitoring violation for microbiological contaminants.

The following tables reflect the public water systems in Tennessee that incurred a violation pertaining to microbiological contaminants. The data has been categorized in accordance with the type of violation incurred; Microbiological Maximum Contaminant Level Violations or Significant Monitoring Violations. The data is further subdivided dependent upon the monitoring frequency of the water systems. In referencing the data regarding microbiological maximum contaminant level violations, the public water systems that incurred such violations are listed according to sampling frequency and are accompanied by the county in which the system is located. The tables reveal the monitoring period during which the violation occurred and whether the violation constituted an acute or non-acute violation of the maximum contaminant level. Acute violations of the maximum contaminant level are represented with dark shading while non-acute violations of the maximum contaminant level are represented utilizing light shading. See tables 1 and 3.

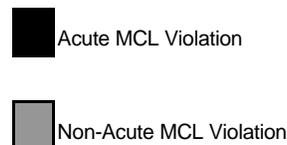
The tables documenting significant monitoring violations list public water systems according to sampling frequency and are also accompanied by the county in which the system is located. The tables include shaded areas corresponding to the monitoring periods during which a monitoring violation was incurred. The failure to conduct routine monitoring or repeat monitoring is not differentiated, as each constitutes a major monitoring failure and violation. See tables 2 and 4.

Table 1
Bacteriological
Maximum Contaminant Level Violations
Monthly Monitoring
January through December 2002



<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January	February	March	April	May	June	July	August	September	October	November	December
* BEAR'S DEN GRILL & GROCERY	POLK	30	Non-Acute	Non-Acute										
CAMDEN WATER DEPT	BENTON	9,687					Non-Acute							
CARRINGTON HILLS APARTMENTS	WILLIAMSON	1,037								Non-Acute				
COLONIAL HARBOR WATER SYSTEM	BLOUNT	35							Non-Acute					
COPPER DUCK RESTAURANT	POLK	50						Non-Acute	Non-Acute					
DRY BRANCH WATER SYSTEM	BENTON	45				Non-Acute			Non-Acute					
FAIRVIEW WATER SYSTEM	WILLIAMSON	6,899								Non-Acute				
FATE SANDERS BOATDOCK	RUTHERFORD	40							Non-Acute					
FISH SPRINGS MARINA	CARTER	130								Non-Acute				
GREENBRIER WATER & SEWER DEPT.	ROBERTSON	5,451									Non-Acute			
HARBERT HILLS ACADEMY N.H.	HARDIN	89						Non-Acute						
HARTSVILLE WATER DEPT	TROUSDALE	6,390								Non-Acute				
LAFAYETTE WATER SYSTEM	MACON	12,567							Non-Acute					
MALLORY VALLEY UTILITY DISTRIC	WILLIAMSON	9,414								Non-Acute				
MAPLE VIEW PUA-TVA	MARION	50									Non-Acute			
MILCROFTON UTILITY DISTRICT	WILLIAMSON	9,102							Non-Acute					
* NOLICHUCKY GORGE CAMPGROUND	UNICOI	196			Non-Acute									
PORTLAND WATER SYSTEM	SUMNER	14,288											Non-Acute	
REELFOOT UTILITY DISTRICT	LAKE	683	Non-Acute											
RINES' MOBILE HOME PARK	HAMBLLEN	27					Non-Acute							
SOUTH PITTSBURG WATER SYSTEM	MARION	6,180							Non-Acute					
SPRING HILL WATER DEPT	MAURY	11,610						Non-Acute						
WAGON WHEEL RESTAURANT	UNICOI	50										Non-Acute		
WEST WARREN-VIOLA U. D.	WARREN	9,293								Non-Acute				
WINCHESTER WATER SYSTEM	FRANKLIN	17,316							Non-Acute					
WOODRUN LAKES S/D	HARDEMAN	142					Non-Acute			Non-Acute				
* System now on quarterly monitoring	Total Systems	26												
	Total Violations	30												
	Total Population	120,801												

Table 3
Bacteriological
Maximum Contaminant Level Violations
Quarterly Monitoring
January through December 2002



<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January-March	April-June	July-September	October-December
ANN AND ANDY'S DAY CARE CENTER	CARROLL	40				
* BETHEL CHURCH OF CHRIST	BLED SOE	125				
BIG D COUNTRY STORE	CARTER	50				
CAMP CLARK WILLIAMSON LODGE	MADISON	120				
* CAMP FAIRVIEW	MCMINN	50				
CANE CREEK BAPTIST CHURCH	MADISON	25				
CEDAR FORK BAPTIST CHURCH	ROANE	90				
CLINCH VALLEY DELI	GRAINGER	25				
FUTURE'S GOLF CLUB	HENRY	500				
GREEN COVE TRAILER CAMP	MONROE	42				
HALL'S GROCERY STORE	POLK	30				
HANK JOHNSON CAMPGROUND	CARTER	43				
HOWSE BAPTIST CHURCH	CARROLL	50				
K-T CLAY COMPANY	WEAKLEY	35				
KAMP KIWANI GIRL SCOUT CAMP	HARDEMAN	200				
NEW BETHEL BAPTIST CHURCH	HARDEMAN	75				
* NEW HOPE CHURCH OF CHRIST	WILLIAMSON	65				
P J'S RESTAURANT	STEWART	30				
USA RAFT INC.	UNICOI	25				
	Total Population	1,620				
	Total Systems	19				
	Total Violations	20				

* System now inactive

Table 4
Bacteriological
Significant Monitoring Violations
Quarterly Monitoring
January through December 2002

 Significant Monitoring Violation

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January-March	April-June	July-September	October-December
BEECHVIEW CORPORATION	WAYNE	25				
* BETHEL CHURCH OF CHRIST	BLEDSON	125				
BIG OAK COVE - USFS	MONROE	35				
BROWNFIELD WATER SYSTEM	STEWART	125				
CAMP AHISTADI	JOHNSON	70				
CAMP CLARK WILLIAMSON LODGE	MADISON	120				
* CAMP FAIRVIEW	MCMINN	50				
CANE CREEK BAPTIST CHURCH	MADISON	25				
CENTRAL POINT HEAD START	GRAINGER	28				
CHILHOWEE - USFS	POLK	568				
* CRENSHAW'S RESTAURANT	GIBSON	25				
* DEERPATH VACATIONS	SEVIER	40				
* DOUGLAS LAKE RESORT	SEVIER	60				
FAIRVIEW BAPTIST CHURCH	POLK	100				
FRENCH BROAD BAPTIST CHURCH	JEFFERSON	40				
GILES FLEA MARKET	CLAIBORNE	25				
GLENWOOD CHURCH OF CHRIST	HUMPHREYS	26				
* GREEN FROG DEVELOPMENT	CROCKETT	25				
HAROLD BAIRD CNTR/CAMP GALILEE	CAMPBELL	45				
HIDDEN VALLEY LAKES #1	HICKMAN	50				
HIDDEN VALLEY LAKES #2	HICKMAN	30				
HIDDEN VALLEY LAKES #3	HICKMAN	35				
HIDDEN VALLEY LAKES #4	HICKMAN	33				
HIDDEN VALLEY LAKES #5	HICKMAN	50				
HIWASSEE OUTFITTERS	POLK	50				

(Continued on Next Page)

* HIWASSEE RIVER PICNIC - USFS	POLK	50				
HOWSE BAPTIST CHURCH	CARROLL	50				
HUCKLEBERRY HILL RESORT	HENRY	25				
KAMP KIWANI GIRL SCOUT CAMP	HARDEMAN	200				
KENTUCKY LAKE MKT/CAJUN PLACE	STEWART	25				
LAKE COVE RESORT	JEFFERSON	100				
LAKEVIEW DOCK CAMPGROUND	UNION	125				
LIGHTHOUSE FAMILY RESTAURANT	BENTON	25				
LITTLE MILLIGAN SCHOOL	CARTER	148				
* LUTTS VOL. FIRE DEPT. W.S.	WAYNE	25				
MOUNTAIN RIDGE GOLF CLUB	CUMBERLAND	30				
MOUNTAIN SHADOWS RESORT	SEVIER	40				
MT HARMONY BAPTIST CHURCH	MCMINN	100				
NEVA GENERAL STORE	JOHNSON	25				
NEW FRIENDSHIP BAPTIST	BRADLEY	85				
* NEW HOPE CHURCH OF CHRIST	WILLIAMSON	65				
P J'S RESTAURANT	STEWART	30				
ROCK HAVEN LODGE	RUTHERFORD	100				
SHIRLEY'S RESTAURANT	CARTER	200				
SIM'S POINT CAMPGROUND	SEVIER	100				
SUNSET GAP COMMUNITY	COCKE	66				
TED-DEE'S CATFISH CAFE & MKT	CARROLL	25				
* THUNDER ROCK #1-USFS	POLK	30				
TUMBLING CREEK - USFS	POLK	25				
USA RAFT INC.	UNICOI	25				
WATERS EDGE R V PARK	SULLIVAN	118				
WONDERLAND LODGE	SEVIER	50				

Total Population	3,692
Total Systems	52
Total Violations	60

* System now inactive

TREATMENT TECHNIQUE VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Treatment techniques are water treatment processes employed for the treatment and/or removal of contaminants in lieu of establishing a Maximum Contaminant Level for contaminants that are very difficult to measure. The Surface Water Treatment Rule (SWTR) and the Enhanced Surface Water Treatment Rule utilizes and establishes treatment techniques in lieu of maximum contaminant levels for *Giardia lamblia*, cryptosporidium, viruses, heterotrophic plate count bacteria, *Legionella*, and turbidity. In accordance with such requirements, water systems supplied by surface water or ground water sources under the direct influence of surface water must utilize water treatment processes (filtration and disinfection) that will achieve removal and/or inactivation of *Giardia lamblia* cysts and viruses. Water systems must perform analyses of the water in order to ensure the proper operation and effectiveness of the filtration and disinfection treatment.

In accordance with the Surface Water and Enhanced Surface Water Treatment Rule, water systems must monitor the water for turbidity (cloudiness of the water) and disinfectant residual. If a water system fails to conduct required monitoring, or fails to monitor and report less than ninety (90) percent of the required samples, as determined by population served and duration of water plant operation, then a significant monitoring violation is incurred. If a water system conducts required monitoring and reporting and the results reveal that less than ninety-five (95) percent of samples collected met the turbidity standard or disinfectant residual standard, then a treatment technique violation is incurred. Additionally, if a water system utilizing surface water or ground water under the direct influence of surface water fails to meet all criteria to avoid filtration treatment and does not install the necessary filtration treatment within the allowable eighteen (18) month deadline, then a violation is incurred regarding the failure to filter requirement.

The following tables show the public water systems in Tennessee that incurred a treatment technique violation. The data has been categorized according to the type of violation incurred. Water systems that failed to conduct required monitoring or reporting or conducted less than ninety (90) percent of the required monitoring incurred a significant monitoring violation and are revealed, together with the county of location, in the significant monitoring violation Table 5. Shading during that period represents the compliance period(s) during which the violation was incurred.

Water systems that failed to monitor the combined filter effluent turbidity or monitor individual filter turbidity performance are listed in Table 6. The dark shading represents a combined filter turbidity monitoring violation while the light shading represents an individual filter turbidity monitoring violation.

Water systems that performed the required monitoring but failed to achieve compliance with the standard for turbidity or disinfectant residual incurred a treatment technique violation and are revealed on the corresponding Table 7. Also shown are systems that failed to install required filtration within 18 months of being notified. Shading during that

period represents the compliance period(s) during which the violation was incurred. The dark shading represents violation of the 18 month time period to install filtration treatment while the light shading represents a treatment technique violation under the Surface Water Treatment Rule.

Water systems that had a treatment technique violation under the Interim Enhanced Surface Water Treatment Rule are revealed on the corresponding Table 8. Shading during that period represents the compliance period(s) during which the violation was incurred. The dark shading represents a violation of 1 NTU of turbidity in a single sample while the light shading represents a violation of more than 5% of the total turbidity samples exceeding 0.3 NTUs.

Table 5
Surface Water Treatment Rule
Significant Monitoring Violations

January through December 2002

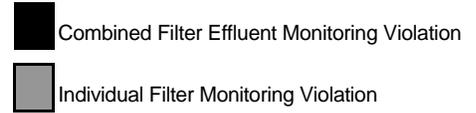
 Significant Monitoring Violation

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January	February	March	April	May	June	July	August	September	October	November	December
CAMP CHEROKEE-MCMINN CO	MCMINN	110												
COBLE COUNTRY STORE	HICKMAN	25												
E.I. DUPONT, OLD HICKORY	DAVIDSON	1,300												
NEW JOHNSONVILLE WATER DEPT	HUMPHREYS	2,176												
OCOEE ADVENTURE CENTER	POLK	25												
* SHADY SPRINGS BAPTIST CHURCH	POLK	100												
TENNESSEE FITNESS SPA	WAYNE	25												
TENNESSEE HILLS CAMP GROUND	COFFEE	70												
Total Population		3,831												
Total Systems		8												
Total Violations		13												

* Water System now inactive.

**Table 6
Interim Enhanced Surface Water Treatment Rule
Significant Monitoring Violations**

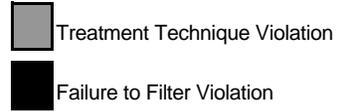
January through December 2002



<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January	February	March	April	May	June	July	August	September	October	November	December
BLOOMINGDALE UTILITY DISTRICT	SULLIVAN	12,268												
COOKEVILLE WATER DEPT	PUTNAM	29,932												
HALLSDALE POWELL U D	KNOX	57,732												
HARRIMAN UTILITY BOARD	ROANE	8,685												
HENDERSONVILLE U.D.	SUMNER	37,811												
LENOIR CITY UTILITY BOARD	LOUDON	16,686												
NASHVILLE WATER DEPT #1	DAVIDSON	412,067												
PORTLAND WATER SYSTEM	SUMNER	14,288												
WEST WILSON UTILITY DISTRICT	WILSON	35,109												
	Total Population	624,578												
	Total Systems	9												
	Total Violations	36												

Table 7
Surface Water Treatment Rule
Treatment Technique Violations

January through December 2002

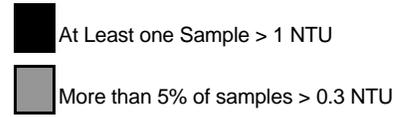


<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January	February	March	April	May	June	July	August	September	October	November	December
BRANDON SPRINGS-LBL	STEWART	75												
CAMP CHEROKEE-MCMINN CO	MCMINN	110												
CHAPEL HILL U.M.C.	SEQUATCHIE	50												
E.I. DUPONT, NEW JOHNSONVILLE	HUMPHREYS	750												
ELM HILL MARINA	DAVIDSON	100												
GARRETT'S CREEK BAPTIST CHURCH	SUMNER	65												
JAMESTOWN WATER DEPT	FENTRESS	3,257												
MOUNTAIN CITY WATER DEPT.	JOHNSON	9,330												
RED BOILING SPRINGS WATER SYST	MACON	3,822												
S & S GENERAL STORE	JOHNSON	25											Source Reclassified	
Total Population		17,584												
Total Systems		10												
Total Violations		20												

* Water System now inactive.

**Table 8
Interim Enhanced Surface Water Treatment Rule
Treatment Technique Violations**

January through December 2002



<u>Water System Name</u>	<u>County</u>	<u>Population</u>	January	February	March	April	May	June	July	August	September	October	November	December
CLINTON UTILITY BOARD	ANDERSON	14,625												
FIRST UTIL DIST OF KNOX COUNT	KNOX	64,230												
HALLSDALE POWELL U D	KNOX	57,732												
HENDERSONVILLE U D	SUMNER	37,811												
OCOEE UTILITY DISTRICT	BRADLEY	11,950												
PORTLAND WATER SYSTEM	SUMNER	14,288												
WEST WILSON UTILITY DISTRICT	WILSON	35,109												
	Total Population	235,745												
	Total Systems	7												
	Total Violations	10												

Nephelometric Turbidity Units (NTU)

INORGANIC CONTAMINANTS VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Inorganic contaminant sampling is conducted by all public water systems in Tennessee in an effort to detect inorganic contaminants such as metals, nitrates or asbestos that may be present in the drinking water. Maximum contaminant levels have been established for inorganic contaminants and monitoring determines compliance with such standards. Monitoring intervals for inorganic contaminants are determined considering the type of source water utilized by the public water system with the exceptions of nitrate and asbestos. Monitoring to determine compliance with the maximum contaminant level for nitrate may be conducted no less frequently than annually. Monitoring to determine compliance with the maximum contaminant level for asbestos is conducted with consideration to population served and the vulnerability of the system to asbestos contamination (asbestos-cement piping, etc.).

The accompanying data reveals those public water systems in Tennessee that incurred an inorganic contaminant monitoring violation. In referencing the data, Table 9 lists all inorganic contaminants that require monitoring with the exception of Nitrate. The public water systems that incurred monitoring violations are listed accompanied by the county of location. Box shading under the corresponding contaminant for which a violation was incurred represents violations. Two of the systems with monitoring violations have returned to compliance by sampling in early 2003. The system, which incurred the Non-Acute MCL violation, was under a compliance schedule to replace the asbestos cement pipe in the distribution system and has recently completed this project and provided sample results below the MCL.

Table 10 reveals nitrate monitoring violations.

Table 9

**Inorganic Contaminant
Violations**

January 1, 2002 through December 31, 2002

■ Non-Actue MCL
■ Significant Monitoring Violation

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	ANTIMONY TOTAL	ARSENIC	BARIUM	BERYLIUM TOTAL	CADMIUM	CHROMIUM	CYANIDE	FLUORIDE	MERCURY	NICKEL	SELENIUM	THALLIUM TOTAL	ASBESTOS	<u>Date Returned to Compliance</u>
ANN AND ANDY'S DAY CARE CENTER	CARROLL	40	■	■	■	■	■	■	■	■	■	■	■	■	■	2/25/2003
NEWBERN WATER DEPT	DYER	7,925	■	■	■	■	■	■	■	■	■	■	■	■	■	1/29/2003
CARDERVIEW UTILITY DISTRICT	JOHNSON	781													■	5/27/2003

Total Population 8,746
Total Systems 3
Total Violations 24

Table 10

**Nitrate
Significant Monitoring Violations**

January through December 2002

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	<u>Date Returned to Compliance</u>
CANE CREEK BAPTIST CHURCH	MADISON	25	2/12/2003
COCHRAN'S LAKEVIEW CAMPGROUND	SULLIVAN	118	4/22/2003
* COVE CREEK CAMPGROUND	CARTER	59	
EAGLES REST WATER SYSTEM	STEWART	25	1/12/2003
GILES FLEA MARKET	CLAIBORNE	25	1/6/2003
¹ HERITAGE ACADEMY	PUTNAM	80	4/9/2002
SADE CORP DBA PAINTER CK MARIN	SULLIVAN	50	5/7/2003
SHIRLEY'S RESTAURANT	CARTER	200	3/11/2003
STANLEY VALLEY MARKET	HAWKINS	25	5/5/2003
TRACE GROUP HOME	WAYNE	30	5/12/2003
TURNERS DAIRY	TIPTON	125	1/6/2003
* WESTERN MENTAL HEALTH INST	HARDEMAN	250	
	Total Population	1,012	
	Total Systems	12	
	Total Violations	12	

1. Significant Monitoring Violation for January - March Quarter

* System now inactive

ORGANIC CONTAMINANTS VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Organic contaminant sampling is conducted by all community, and certain non-community public water systems in Tennessee, which have not received a waiver of the monitoring requirements, in an effort to detect any organic contaminants such as solvents or pesticides which may be present in the drinking water. Maximum contaminant levels have been established for organic contaminants and monitoring determines compliance with such standards. Monitoring intervals for organic contaminants are determined considering the type of source water utilized and the type of population served by the public water system. Water systems that conduct monitoring for organic contaminants and do not detect a contaminant may reduce the sampling frequency regarding organic contaminants or request a waiver from the State regarding sampling requirements.

The accompanying data reveals those public water systems in Tennessee that incurred an organic contaminant monitoring violation. The data reveals public water systems that had not received a waiver of monitoring requirements and failed to conduct the required monitoring. During the 2002 calendar year, there were no public water systems in Tennessee that incurred a maximum contaminant level violation regarding organic contaminants. To facilitate ease of use, the data has been categorized according to type of organic contaminant. Table 11 contains a listing of Synthetic Organic Contaminants (SOCs) monitoring violations. In referencing the data table, the public water systems that incurred monitoring violations are listed accompanied by the county of location. Organic contaminants that required monitoring are listed with violations being represented by box shading under the corresponding contaminant for which a monitoring violation was incurred.

Tennessee did not have any water system to have a significant volatile organic chemical monitoring violation in 2002 nor did any water system exceed the maximum contaminant level or any of the synthetic or volatile organic chemicals.

Table 11

**Synthetic Organic Contaminants
Significant Monitoring Violations
January through December 2002**

■ Significant Monitoring Violation

<u>System Name</u>	<u>County</u>	<u>Population</u>	2,4,5-TP SILVEX	2,4-D	1,2-DIBROMO-3-CHLOROPROPANE	ADIPATES	ALACHLOR (LASSO)	ATRAZINE	BENZO(A)PYRENE	CARBOFURAN	CHLORDANE	DALAPON	DINOSERB	DIOXIN	DIQUAT	ENDOTALL	ENDRIN	ETHYLENE DIBROMIDE (EDB)	GLYPHOSATE	HEPTACHLOR	HEPTACHLOR EPOXIDE	HEXACHLOROBENZENE	HEXACHLOROCYCLOPENTADIENE	LINDANE	METHOXYCHLOR	PENTACHLOROPHENOL	PICLORAM	PHTHALATES	POLYCHLORINATED BIPHENYLS	SIMAZINE	TOXAPHENE	VYDATE	
DECHERD WATER DEPT. April through June 2002 (Returned to Compliance 5/1/2003)	FRANKLIN	3,606						■																									
WARTRACE WATER SYSTEM April through June 2002 (Returned to Compliance 5/2/2003)	BEDFORD	2,366						■																									
	Total Population	5,972																															
	Total Systems	2																															
	Total Violations	2																															

DISINFECTION BY-PRODUCT and BY-PRODUCT PRECURSOR VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Trihalomethane and haloacetic acid sampling is conducted by all community public water systems in Tennessee which serve a population of 10,000 or more individuals and add a disinfectant to the water. Trihalomethanes and haloacetic acids are disinfection by-products that are produced as the disinfectant (chlorine) reacts with naturally occurring organic matter, such as leaf litter, which may be present in the water. Monitoring is conducted in an effort to detect any trihalomethanes or haloacetic acids that may be present in the drinking water. A maximum contaminant level has been established for both total trihalomethanes and total haloacetic acids and monitoring determines compliance with the standards. Monitoring is conducted for both total trihalomethanes and haloacetic acids on a quarterly basis and on each water treatment plant used by a system.

The standard or maximum contaminant level for total trihalomethanes was reduced from 100 parts per billion (ppb) to 80 ppb for 2002. The standard for haloacetic acids is 60 ppb and is a new standard that became effective in January 2002.

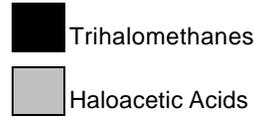
The accompanying data reveals two public community water systems in Tennessee that incurred a total trihalomethane monitoring violation and three systems that incurred a haloacetic acid monitoring violation. Three public water systems in Tennessee incurred a maximum contaminant level violation regarding total trihalomethanes during the 2002 calendar year and five systems incurred a haloacetic acids maximum contaminant level violation. In referencing Table 12 for total trihalomethanes and haloacetic acids, the public water systems that incurred a significant monitoring violation are listed accompanied by the county of location. The data is segregated according to quarterly compliance monitoring periods with violations being represented by box shading under the corresponding compliance period during which a violation was incurred. Light colored shading indicates that haloacetic acids monitoring was not performed and dark colored shading indicates a total trihalomethanes monitoring was not performed during the applicable monitoring periods.

Table 13 lists public water systems that incurred a maximum contaminant level violation for either total trihalomethanes or total haloacetic acids. The data is segregated according to quarterly compliance periods with violations being represented by box shading under the corresponding compliance period during which a violation was incurred. Light colored shading indicates a haloacetic acids maximum contaminant level violation and dark colored shading indicates a total trihalomethanes maximum contaminant level violation during the applicable monitoring periods.

Table 14 lists public water systems that had a significant monitoring violation for a disinfection by-product precursor. This table is for systems that failed to monitor for total organic carbon (TOC). There were 8 public water systems that had a TOC monitoring violation during 2002. The data is segregated according to quarterly compliance periods with monitoring violations being represented by box shading under the corresponding compliance period during which a violation was incurred.

Table 12

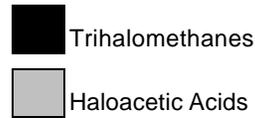
**Disinfection By-Products
Significant Monitoring Violations
January through December 2002**



<u>Water System Name</u>	<u>County</u>	<u>Population</u>	<u>Jan., Feb., March</u>	<u>April, May, June</u>	<u>July, Aug., Sept.</u>	<u>Oct., Nov., Dec.</u>	<u>Date Returned to Compliance</u>
ANDERSON COUNTY UTILITY BOARD	ANDERSON	8,694	□	□	□	□	N/A
			■	□	□	□	4/23/2002
LAWRENCEBURG WATER SYSTEM	LAWRENCE	17,127	■	□	□	□	6/19/2002
			□	□	□	□	N/A
LINCOLN CO BD OF P.U. #1	LINCOLN	15,549	□	□	□	□	N/A
			■	□	□	□	4/15/2002
SHADY GROVE UTILITY DISTRICT	JEFFERSON	13,770	■	□	□	□	5/29/2002
			■	□	□	□	5/29/2002
Total Population		55,140					
Total Systems		4					
Total Violations		5					

Table 13

**Disinfection By-Products
Maximum Contaminant Level Violations
January through December 2002**



<u>Water System Name</u>	<u>County</u>	<u>Population</u>	Jan., Feb., March	April, May, June	July, Aug., Sept.	Oct., Nov., Dec.	<u>Date Returned to Compliance</u>
CROSSVILLE WATER DEPT	CUMBERLAND	15,938					N/A
ETOWAH UTILITIES	MCMINN	9,080					N/A 3/18/2003
JAMESTOWN WATER DEPT	FENTRESS	3,257					2/20/2003
LEXINGTON WATER SYSTEMS	HENDERSON	21,867					N/A 2/24/2003
LIVINGSTON WATER DEPT	OVERTON	10,578					N/A
SUNBRIGHT UTILITY DISTRICT	MORGAN	4,257					3/13/2003 N/A
WINCHESTER WATER SYSTEM	FRANKLIN	17,316					1/14/2003 N/A
	Total Population	82,293					
	Total Systems	7					
	Total Violations	10					

Table 14

**Disinfection By-Product Precursors
Significant Monitoring Violations
January through December 2002**

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	Jan., Feb., March	April, May, June	July, Aug., Sept.	Oct., Nov., Dec.
ANDERSON COUNTY UTILITY BOARD	ANDERSON	8,694	■			
CAMDEN WATER DEPT	BENTON	9,687	■			
HALLSDALE POWELL U D	KNOX	57,732		■		
LAWRENCEBURG WATER SYSTEM	LAWRENCE	17,127	■			
PORTLAND WATER SYSTEM	SUMNER	14,288			■	
SHELBYVILLE WATER SYSTEM	BEDFORD	19,425		■		
	Total Population	126,953				
	Total Systems	6				
	Total Violations	6				

■ Total Organic Carbon

Systems monitor for TOCs each month during a calendar quarter.
Failure to monitor during any month of the quarter would cause a quarterly violation.

LEAD AND COPPER VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Lead and Copper sampling is conducted by all community and certain non-community public water systems in Tennessee in an effort to detect excessive levels of lead and/or copper in drinking water. The maximum allowable concentrations of lead and/or copper in drinking water are denoted as “action levels”. Treatment techniques have been established that include requirements for corrosion control treatment, source water treatment, lead service line replacement and public education for systems which exceed the action levels for lead and/or copper. Tap water monitoring determines compliance with such standards. Initial tap water monitoring is conducted for lead and copper on six (6) month monitoring intervals. If a water system meets the action levels for lead and copper during each of two (2) consecutive six (6) month monitoring periods, or maintains optimal corrosion control, the system may request to reduce monitoring to an annual basis.

One public water system in Tennessee incurred a lead and copper monitoring violation during 2002 because the system collected samples during the month of May instead of the June, July, August and September monitoring period. See Table 15.

Table 15

**Lead Copper Rule
Significant Monitoring Violations
January through December 2002**

<u>Water System Name</u>	<u>County</u>	<u>Popul.</u>	<u>Violation Period Begin Date</u>
NEW JOHNSONVILLE WATER DEPT	HUMPHREYS	2,176	October 1, 2002
	Total Population	2,176	
	Total Systems	1	
	Total Violations	1	

CONSUMER CONFIDENCE REPORT VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Beginning in 1998 community public water systems were required to furnish a report to its customers with certain information about the water being furnished. Included in this report is the source of water for the local water utility, certain health effects language, information concerning contaminants detected, and information on violations that may have occurred during the previous calendar year. There is also information on the time and location of any board meetings to promote public participation in the decision making process of the water utility.

All systems serving 10,000 or more persons are required to furnish an individual copy of the report to each water user. Systems serving less than 10,000 persons are given the option to notify their customers that the report will be published in a newspaper serving the local area. Even though the report is published in the paper, the water utility is required to furnish an individual copy of the report to any person requesting a copy.

Thirty-two water systems incurred a Consumer Confidence Report (CCR) reporting violation on July 1, 2002, by failing to provide a copy of their 2002 Consumer Confidence Report to the state or to their customers by the required due date. All thirty-two systems had returned to compliance by August 2, 2002. For many of the systems, the report was late by less than two weeks.

Public water systems that incurred a violation of the Consumer Confidence Report are listed in Table 16.

Table 16

**Consumer Confidence Report Violations
January through December 2002**

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	<u>Date Returned to Compliance</u>
333 APARTMENTS	DAVIDSON	170	7/26/2002
ATWOOD WATER SYSTEM	CARROLL	1,296	7/14/2002
BEDFORD COUNTY UD	BEDFORD	12,950	7/15/2002
BRISTOL-BLUFF CITY UTILITY DIS	SULLIVAN	4,755	7/22/2002
CAGLE-FREDONIA UTILITY DIST	SEQUATCHIE	1,381	7/22/2002
CLEVELAND UTILITIES	BRADLEY	65,843	7/17/2002
COLONY HOUSE APARTMENTS	RUTHERFORD	522	7/26/2002
CORNERSVILLE WATER DEPARTMENT	MARSHALL	1,270	7/15/2002
COUNTRY LIVING ESTATES MHP	SUMNER	332	7/26/2002
COUNTY LINE TRAILER PARK	GIBSON	72	7/30/2002
DAYTON WATER DEPT	RHEA	16,632	7/15/2002
DYER WATER DEPT	GIBSON	2,784	7/12/2002
FIRST U D OF CARTER CO	CARTER	7,050	7/17/2002
FIRST UTIL DIST OF KNOX COUNT	KNOX	64,230	7/12/2002
GATEWAY MOBILE HOME PARK	DAVIDSON	83	7/26/2002
GRAYSVILLE WATER DEPT.	RHEA	1,673	7/10/2002
GRIFFITH CREEK UTILITY DIST	MARION	1,126	7/12/2002
HALLSDALE POWELL U D	KNOX	57,732	7/12/2002
HOLSTON U D	SULLIVAN	2,395	7/22/2002
HUNTINGDON WATER DEPT	CARROLL	5,820	7/12/2002
LAKEMONT WATER SYSTEM	HAWKINS	119	7/11/2002
LAWRENCEBURG WATER SYSTEM	LAWRENCE	17,127	7/18/2002
LOBELVILLE WATER DEPT	PERRY	1,781	8/2/2002
MINOR HILL WATER UTIL DIST	GILES	5,070	7/24/2002
MONTHAVEN PARK APARTMENTS	SUMNER	993	7/26/2002
MOSCOW WATER DEPT	FAYETTE	677	7/12/2002
MOSHEIM UTILITY DISTRICT	GREENE	1,724	7/19/2002
OLD KNOXVILLE HWY U D	GREENE	6,683	7/19/2002
PARK AT HERMITAGE APTS, THE	DAVIDSON	1,038	7/26/2002
SAMBURG UTILITY DIST	OBION	748	7/15/2002
SOUTH BRISTOL-WEAVER PIKE U D	SULLIVAN	5,142	7/22/2002
TELLICO VILLAGE POA	LOUDON	5,537	7/10/2002
	Total Population	294,755	
	Total Systems	32	
	Total Violations	32	

RADIONUCLIDE VIOLATIONS DATA INTERPRETATION AND GUIDANCE

Public water systems are required to monitor for certain naturally occurring and man-made radionuclides to insure the water being provided to their customers meet standards. Radionuclide samples are collected every quarter with the results being the average of all the quarterly samples. Tennessee had one system fail to meet the maximum contaminant level during the current reporting period. This water system has constructed a new well that testing has shown the water to comply with the radionuclide standard. Steps are being taken to prepare this well for service.

Table 17 contains the radionuclide violation information.

Table 16

**Radionuclide Violations
January through December 2002**

<u>Water System Name</u>	<u>County</u>	<u>Population</u>	<u>Violation Type</u>	<u>Period</u>
HERITAGE ACADEMY	PUTNAM	80	Non-Actue MCL	January - March 2002
			Non-Actue MCL	April - June 2002
			Non-Actue MCL	July - September 2002
			Monitoring	October - December 2002
	Total Population	80		
	Total Systems	1		
	Total Violations	4		

DIVISION OF WATER SUPPLY ENFORCEMENT ACTION SUMMARY

In order to address non-compliance issues the Division of Water Supply utilizes a number of enforcement mechanisms which include: issuance of Notices of Violation and/or Notices of Non-Compliance which officially notify a violator of a violation and provides guidance to facilitate actions to return a violator to compliance; technical assistance and training; conducting Compliance Review and/or Show Cause meetings during which compliance status is discussed and imperative actions to achieve compliance are reviewed; and issuance of administrative orders and assessments which contain monetary civil penalties for violations incurred. The Department of Environment and Conservation and the Division of Water Supply are granted authority by the Tennessee Safe Drinking Water Act, through the department's commissioner, to initiate enforcement action and issue such administrative orders regarding violations of the Tennessee Safe Drinking Water Act, T.C.A. § 68-221-701 *et seq.*

The Division of Water Supply initially attempts to assist violators with compliance through a system of official notifications, technical assistance and training, on-site inspections and compliance review meetings. Under certain circumstances, water systems are provided the opportunity to execute a Letter of Agreement indicating an understanding of non-compliance issues and conveying an agreement to undertake the necessary actions to prevent a recurrence of non-compliance. In situations where the division has issued notifications, conducted technical assistance and/or on-site inspections or conducted compliance assessment meetings and violations are not addressed by the water utility or are not addressed in a timely manner, enforcement action in the form of an Administrative Order is customarily recommended and/or initiated. Such Administrative Orders contain monetary civil penalties assessed for violations and mandate that compliance be achieved.

The majority of violations incurred by water utilities are addressed and corrected prior to the necessity for issuance of an Administrative Order. With technical assistance and training by the division, most systems are able to return to compliance. However, there are water systems that incurred violations that were not addressed or corrected making an Administrative Order warranted. Consequently, during calendar year 2002, 15 Administrative Orders were issued with assessments totaling \$ 133,750.00 to public water systems and/or certified operators in Tennessee. The Administrative Orders encompassed a variety of violations including those contained in this Annual Report of Violations.